

WHAT IS CLAIMED IS:

1. An isolated nucleic acid encoding MYPT kinase.
2. The nucleic acid according to claim 1 wherein said MYPT kinase is mammalian MYPT kinase.
3. The nucleic acid according to claim 1 wherein said MYPT kinase has the amino acid sequence set forth in Figure 9.
4. An isolated nucleic acid encoding mammalian MYPT kinase, or portion thereof of at least 15 consecutive bases, or complement thereof.
5. The isolated nucleic acid according to claim 4 wherein the nucleic acid encodes the amino acid sequence set forth in Figure 9, or portion thereof of at least 5 amino acids.
6. The isolated nucleic acid according to claim 5 wherein the nucleic acid has the sequence shown in Figure 8, or a sequence substantially identical thereto, or portion thereof of at least 15 consecutive bases.
7. The isolated nucleic acid according to claim 6 wherein said nucleic acid has the sequence shown in Figure 8, or portion thereof of at least 15 consecutive bases.
8. The isolated nucleic acid according to claim 7 wherein the nucleic acid has the sequence shown in Figure 8.

9. A recombinant molecule comprising said nucleic acid according to claim 1 and a vector.

10. The recombinant molecule according to claim 9 further comprising a promoter operably linked to said nucleic acid sequence.

11. A host cell comprising said recombinant molecule according to claim 9.

12. A method of producing MYPT kinase comprising culturing said host cell according to claim 11 under conditions such that said nucleic acid sequence is expressed and said MYPT kinase is thereby produced.

13. A recombinant molecule comprising the nucleic acid sequence according to claim 4 and a vector.

14. The recombinant molecule according to claim 13 further comprising a promoter operably linked to said nucleic acid sequence.

15. A host cell comprising said recombinant molecule according to claim 13.

16. A method of producing mammalian MYPT kinase, or portion thereof, comprising culturing said host cell according to claim 15 under conditions such that said nucleic acid sequence is expressed and said mammalian MYPT kinase, or portion thereof, is thereby produced.

17. An isolated mammalian MYPT kinase or portion thereof of at least 5 consecutive amino acids.

18. The protein according to claim 17 wherein said protein has the amino acid sequence shown in Figure 9.

19. An antibody specific for the protein, or portion thereof, of claim 17.

20. A method of screening a test compound for anti-hypertensive activity comprising contacting MYPT kinase with MYPT1, or portion thereof comprising Thr⁶⁹⁷, in the presence and absence of said test compound and determining the ability of said compound to modulate the phosphorylation of Thr⁶⁹⁷ by said kinase.

21. A kit for use in the detection of MYPT kinase comprising a compound that specifically binds to MYPT kinase disposed within a container means.

22. The kit according to claim 21 wherein said compound is an antibody or binding fragment thereof.